

DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Parts 171, 172, 173, and 175

[Docket No. HM-168-S, Notice No. 84-10]

Magnetized Material

AGENCY: Materials Transportation Bureau (MTB), Research and Special Programs Administration, DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: The MTB proposes to amend the regulations governing the transportation of magnetized material aboard aircraft. These proposals are in response to a petition for rulemaking which was filed with the MTB. The changes are necessary to remove from regulation those materials which have magnetic properties, but present no significant risk to the safe operation of aircraft, and to maintain transportation safety by continuing to forbid those magnetized materials which present a hazard due to their potential effect on aircraft instruments used for navigation.

DATE: Comments must be received on or before November 7, 1984.

ADDRESS: Dockets Branch, Materials Transportation Bureau, U.S. Department of Transportation, Washington, D.C. 20590. Comments should be submitted, if possible, in five copies. Persons wishing to receive confirmation of receipt of their comments should include a self-addressed stamped post card. The Dockets Branch is located in Room 8426, Nassif Building, 400 7th Street, SW., Washington, D.C. 20590. Public dockets may be reviewed between the hours of 8:30 a.m. and 5:00 p.m., Monday through Friday.

FOR FURTHER INFORMATION CONTACT: Irving R. Abis, Exemptions and Regulations Termination Branch, Office of Hazardous Materials Regulation.

Materials Transportation Bureau, 400 7th Street, SW., Washington, D.C. 20590 (202) 426-2075.

SUPPLEMENTARY INFORMATION: Under the provisions of 49 CFR 173.1020, a material is considered to be "magnetized" and subject to the requirements of the Hazardous Materials Regulations (when transported by aircraft) when it has a magnetic field strength of 0.002 gauss or greater at a distance of 7 feet from any point on the surface of the package, or which is of such mass that it could affect aircraft instrumentation, particularly magnetic compasses.

Furthermore, a material with a measurable magnetic field greater than 0.00525 gauss, when measured from any package surface at a distance of 15 feet, must be shielded to reduce the reading to a level that is no greater than 0.00525 gauss before being offered for transportation by aircraft.

This notice is in response to a petition for rulemaking filed with the MTB by the Motor Vehicle Manufacturers Association (MVMA), under the provisions of 49 CFR 106.31. The MVMA petitioned the MTB to deregulate certain materials, such as auto fenders and other automobile parts, which may meet the lower criteria in § 173.1020 for magnetized material, but pose little or no transportation hazard because they do not affect aircraft instrumentation.

The MTB believes that the current rules on magnetic materials are obsolete due to improvements in the technology of aircraft instrumentation over the past 30 years. Modern aircraft use electronic compasses with magnetic compasses as backups. The sensors for the magnetic backup compasses of modern aircraft are located sufficiently far away from cargo bays so that the possible marginal magnetic properties of metal objects such as automobile parts will not cause a measurable deflection effect on the compass. It is normal procedure for pilots to check the aircraft's magnetic compass and electronic compass against the runway heading before takeoff.

In order to perform an accurate test for magnetism at the lower gauss limit currently specified in § 173.1020 (0.002 gauss), a test would have to be conducted away from any possible magnetic sources, using a gauss meter which costs about \$1,500.00. To conduct this test, large metal objects which are to be offered for transportation, and which are not intentionally magnetic, but have acquired magnetic properties during their manufacture or because of their orientation, would have to be tested in a controlled environment. If the test shows that the metal objects are

above the 0.002 gauss level at a distance of 7 feet, under current rules they must be labeled with the MAGNETIZED MATERIAL label, marked "ORM-C", and shipped as a hazardous material. The metal objects must be reloaded and brought to the airport for transportation by aircraft. When the metal objects are moved, the magnetic field created by the mass of those objects may change due to the new placement of the objects. When they are loaded aboard the aircraft, the magnetic field may, again change, due to placement of the object aboard an aircraft. Consequently these tests at low gauss levels are not repeatable and the necessity for and benefit of regulating metallic loadings at low levels at low levels of magnetism is questionable.

The MTB believes that testing metal objects for magnetism is not necessary, other than those deliberately fabricated with magnetic properties. Marginal magnetic properties of other loadings are of such low levels that the probability of deflecting aircraft instruments is negligible. This notice proposes to eliminate the 0.002 gauss threshold and to continue to forbid the transportation of magnetized material over the 0.00525 gauss level at a distance of 15 feet from the package surface for carriage aboard aircraft. The MTB believes that the rules proposed in this notice, if adopted, would not reduce the level of air safety and would relieve shippers and carriers of burdens imposed by undue regulation.

The MTB will propose that the standards for magnetized material in the International Civil Aviation Organization (ICAO) Technical Instructions be changed to reflect these proposed amendments if a final rule is issued as proposed. Should these amendments be adopted as a final rule, the Federal Aviation Administration (FAA) is considering the publication of an Advisory Circular for aircraft built before 1955 to assure that the proper procedure for stowage of magnetized material is followed to avoid affecting instruments on aircraft which might not have compasses with remote sensors.

The MTB certifies that this proposed regulation will not, if promulgated, have a significant economic impact on a substantial number of small entities. Also, in view of the type of changes being proposed, the MTB has further determined that this rulemaking (1) is not "major" under Executive Order 12291; (2) is not "significant" under DOT Regulatory Policies and Procedures (44 FR 11034; February 28, 1979); (3) will not affect not-for-profit enterprises, or small governmental jurisdictions; and (4) does not require an environmental impact statement under the National

Environmental Policy Act (49 U.S.C. 4321 et seq.). A regulatory evaluation is considered unnecessary because the anticipated impact would be minimal.

List of Subject

49 CFR Part 171

Hazardous materials transportation. Definitions.

49 CFR Part 172

Hazardous materials transportation. Labeling, Packaging and containers.

49 CFR Part 173

Hazardous materials transportation. Packaging and containers.

49 CFR Part 175

Hazardous materials transportation. Air carriers.

In consideration of the foregoing, it is proposed to amend the Hazardous Materials Regulations as follows:

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

1. In § 171.8, the entry for "Magnetic material" would be revised as follows:

"Magnetic materials" See § 173.21(f).

PART 172—HAZARDOUS MATERIALS TABLES AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS

2. In § 172.101, the Hazardous Materials Table would be amended by removing the entry for magnetized materials and adding a new entry as follows:

§ 172.101 Hazardous Materials Table.

EAW	Hazardous materials descriptions and proper shipping names	Hazard class	Identification number	Label(s) required (if not excepted)	Packaging		Maximum net quantity in one package		Water shipments		
					(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo aircraft only	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
(1)	(2)	(3)	3(a)	(4)	5(a)	5(b)	6(a)	6(b)	7(a)	7(b)	7(c)
	(Remove) Magnetized material	ORM-C	UN2807	Magnetized material	None	173.1020	No limit	No limit			
	(ADD) Magnetized material. See 173.21(f).										

§ 172.402 [Amended]

3. In § 172.402, paragraph (d) would be removed and reserved.

§ 172.446 [Removed]

4. Section 172.446 would be removed and reserved.

PART 173—SHIPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

5. In § 173.21, a new paragraph (f) would be added to read as follows:

§ 173.21 Forbidden materials and packages.

* * * * *

(f) For carriage by aircraft, any material which when packaged has a measurable magnetic field of more than 0.00525 gauss when measured from any surface of the package at a distance of 15 feet.

§ 173.1020 [Removed]

6. Section 173.1020 would be removed and reserved.

PART 175—CARRIAGE BY AIRCRAFT

§ 175.30 [Amended]

7. In § 175.30, paragraph (d)(3) would be removed and reserved.

§ 175.85 [Amended]

8. In § 175.85, paragraph (g) would be amended by removing the last sentence. (49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53, App. A to Part 1 and paragraph (a)(3) of Appendix A to Part 108.)

Issued in Washington, D.C., September 19, 1984.

Alan I. Roberts,

Associate Director for Hazardous Materials Regulation, Materials Transportation Bureau.

(FR Doc. 84-25241 Filed 9-21-84; 8:45 am)

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DEPARTMENT OF TRANSPORTATION

Research and Special Programs
Administration

49 CFR Parts 171, 172, 173 and 175

[Docket No. HM-166-S, Amdt. Nos. 171-84,
172-102, 173-195, and 175-34]

Magnetized Material

AGENCY: Research and Special Programs
Administration (RSPA), DOT.

ACTION: Final rule.

SUMMARY: This final rule deregulates certain materials classed as magnetized material under the Hazardous Materials Regulations (HMR). RSPA believes that the present rules applying to magnetized materials carried aboard aircraft are obsolete. The intended effect of this rule is to eliminate the marking, labeling, and shipping paper requirements in the HMR with regard to magnetized material, while continuing to forbid the transportation of materials as packaged with a gauss level of more than 0.00525 gauss at a distance of 15 feet.

EFFECTIVE DATE: This amendment is effective February 25, 1986. However, compliance with the regulations, as amended herein, is authorized as of November 25, 1985.

FOR FURTHER INFORMATION CONTACT:

Irving R. Abis, Exemptions and Regulations Termination Branch, Office of Hazardous Materials Transportation, Research and Special Programs Administration, Department of Transportation, 400 7th Street, SW., Washington, DC 20590, (202) 426-2075.

SUPPLEMENTARY INFORMATION: On September 24, 1984, RSPA published a notice of proposed rulemaking in the *Federal Register*, (Notice 84-10), (49 37438). That notice proposed to amend the regulations governing the transportation of magnetized materials aboard aircraft. The notice was published in response to a petition for rulemaking submitted by the Motor Vehicle Manufacturers Association (MVMA). RSPA proposed to deregulate certain materials, such as automobile fenders and other automobile parts, which may meet the lower magnetic criteria in 49 CFR 173.1020 for magnetized material (0.002 gauss or greater at a distance of 7 feet from any point on the surface of the package). The notice also proposed to eliminate the *Magnetized Material* labeling requirement, and the ORM-C marking for packagings which have a gauss level of 0.00525 gauss or less at a distance of 15 feet, and to forbid transportation of

materials by aircraft, which as packaged, have a gauss level of over .00525 gauss at a distance of 15 feet.

As stated in the notice, RSPA believes that the current rules on magnetized materials are obsolete and fail to recognize improvements in the technology of aircraft instrumentation over the past 30 years that substantially prevent most magnetized materials from having an adverse effect on the operation of instruments.

In response to Notice 84-10, RSPA received 21 written comments. The respondents included shippers of magnetized materials, the Airline Pilots Association (ALPA), the Air Transport Association of America (ATA), and the U.S. Air Force (USAF). Of those commenters expressing an opinion on the overall merits of the proposal, all commenters were in favor of the proposal except the ALPA, the ATA and the USAF.

The ALPA expressed concern that while individual shipments may not contain sufficient magnetic force to affect aircraft instrumentation, multiple shipments aboard an aircraft may affect instrumentation. Operating information which is required to be furnished to pilots of aircraft (operating under rules contained in 14 CFR Parts 121 and 135) include cockpit checklists. Cockpit checklists include making certain that instruments are working properly. If multiple quantities of individual shipments, each containing non-regulated amounts of magnetized material are stowed aboard an aircraft so as to affect the instrumentation, the problem would become apparent as the pilot performs the pre-flight check. If as a result the instruments are diverted, corrective action must be taken before takeoff. RSPA believes that such occurrences are highly unlikely because of the remote positioning of magnetic flux detectors in modern aircraft. No test results or technical justification were submitted in support of ALPA's position.

The ATA commented that a number of its members were in favor of the proposed rule and one member was against the proposal, stating that in recent years DC-8 aircraft were twice affected by materials with magnetic properties. No information or documentation was supplied regarding the details of these incidents, and there was no indication as to whether the materials were properly or improperly transported under the provisions of the HMR.

The USAF commented in opposition to the proposed rule without providing technical details.

RSPA and the Federal Aviation Administration (FAA) believe that these rules will not reduce the level of air safety and will relieve a burden of undue regulation on shippers and carriers. To assure the proper stowage of cargo aboard aircraft which might not have compasses with remote sensors or aircraft having compass master units located within the fuselage, the FAA is publishing an Advisory Circular to provide information relevant to the preparation and loading of magnetic materials for shipment in civil aircraft.

RSPA is delaying the effective date of this rule for 90 days to allow petitions for reconsideration to be submitted by interested parties. Commenters who can provide test results or technical justification may petition RSPA for reconsideration following the procedures in § 106.35.

It should be noted that this rule amends the rules for air transportation of hazardous materials under the provisions of 49 CFR and does not affect the rules under the *Technical Instructions for the Safe Transport of Dangerous Goods by Air*, published by the International Civil Aviation Organization (ICAO). However, RSPA will recommend that the ICAO Technical Instructions be amended accordingly.

Based on limited information available concerning size and nature of entities likely to be affected, I certify that this regulation will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. Also, in view of the type of changes, RSPA has further determined that this rulemaking (1) is not "major" under Executive Order 12291; (2) is not "significant" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); (3) will not affect not-for-profit enterprises, or small governmental jurisdictions; and (4) does not require an environmental impact statement under the National Environmental Policy Act (49 U.S.C. 4321 et seq.). A regulatory evaluation is considered unnecessary because the anticipated impact is minimal.

List of Subjects

49 CFR Part 171

Hazardous materials transportation, Definitions.

49 CFR Part 172

Hazardous materials transportation.

hazardous packaging and containers.

49 CFR Part 173

Hazardous materials transportation, Packaging and containers.

49 CFR Part 175

Hazardous materials transportation, Air carriers

In consideration of the foregoing, 49 CFR Parts 171, 172, 173 and 175 are amended as follows:

§ 172.101 Hazardous Materials Table.

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

1. The authority citation for Part 171 continues to read as follows:

Authority: 49 U.S.C. 1803, 1804, 1805, 1808, 49 CFR 1.53, unless otherwise noted.

§ 171.8 [Amended]

2. In § 171.8, the entry for "Magnetic Materials" is revised to read as follows:

* * * * *

"Magnetic materials" See § 173.21(f).

* * * * *

PART 172—HAZARDOUS MATERIAL TABLES AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS

3. The authority citation for Part 172 continues to read as follows:

Authority: 49 U.S.C. 1803, 1804, 1805, 1808, 49 CFR 1.53, unless otherwise noted.

4. In § 172.101, the Hazardous Materials Table is amended by deleting the current entry for Magnetized material and adding a new entry to read as follows:

1. A.A. Hazardous materials description and proper shipping names	2. Hazard class	3. Identification number	4. Label(s) required (if not excepted)	5. Packaging		6. Maximum net quantity in one package		7. Water shipments		
				Exceptions	Specific requirements	Passenger aircraft only	Cargo aircraft only	Cargo aircraft only	Passenger aircraft only	Other
(1)	(2)	(3)	(4)	(5a)	(5b)	(6a)	(6b)	(7a)	(7b)	(7c)
Magnetized material (ADD)	ORM-C	UN2807	Magnetized material	None	173.1020	No limit	No limit			

§ 172.402 [Amended]

5. In § 172.402, paragraph (d) is removed and reserved.

§ 172.446 [Removed and Reserved]

6. Section 172.446 is removed and reserved.

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

7. The authority citation for Part 173 continues to read as follows:

Authority: 49 U.S.C. 1803, 1804, 1805, 1808, 49 CFR 1.53, unless otherwise noted.

8. In § 173.21, a new paragraph (f) is added to read as follows:

§ 173.21 Forbidden materials and packages.

(f) For carriage by aircraft, any material which when packaged has a measurable magnetic field of more than 0.00525 gauss when measured from any surface of the package at a distance of 15 feet.

§ 173.1020 [Removed and Reserved]

9. Section 173.1020 is removed and reserved.

PART 175—CARRIAGE BY AIRCRAFT

10. The authority citation for Part 175 continues to read as follows:

Authority: 49 U.S.C. 1803, 1804, 1805, 1808, 49 CFR 1.53, unless otherwise noted.

§ 175.30 [Amended]

11. In § 175.30, paragraph (d)(3) is removed and reserved.

§ 175.85 [Amended]

12. In § 175.85, paragraph (g) is amended by removing the last sentence

Issued in Washington, D.C. on Nov. 19, 1985, under authority delegated in 49 CFR Part 1, Appendix A.

M. Cynthia Douglass

Administrator, Research and Special Programs Administration.

[FR Doc. 85-28048 Filed 11-22-85; 8:45 am.]

BILLING CODE 4910-80-M